Name: Date:

s17 Geometric Series Exam (Practice v0)

Question 1

Consider the partial geometric series represented below with first term $a = 696$, common ratio $r = \left(\frac{47}{87}\right)^{1/10}$, and $n = 10$ terms.

$$S = 696 + 654.44 + 615.35 + 578.61 + 544.05 + 511.56 + 481.01 + 452.29 + 425.28 + 399.88$$

We can multiply both sides by r.

$$rS = 654.44 + 615.35 + 578.61 + 544.05 + 511.56 + 481.01 + 452.29 + 425.28 + 399.88 + 376$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(7) + 3(7)^2 + 3(7)^3 + \cdots + 3(7)^{91} + 3(7)^{92} + 3(7)^{93} + 3(7)^{94}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v1)

Question 1

Consider the partial geometric series represented below with first term $a = 608$, common ratio $r = \left(\frac{3}{8}\right)^{1/10}$, and $n = 10$ terms.

$$S = 608 + 551.2 + 499.7 + 453.02 + 410.69 + 372.32 + 337.54 + 306 + 277.41 + 251.5$$

We can multiply both sides by r.

$$rS = 551.2 + 499.7 + 453.02 + 410.69 + 372.32 + 337.54 + 306 + 277.41 + 251.5 + 228$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 8 + 8(4) + 8(4)^2 + 8(4)^3 + \cdots + 8(4)^{59} + 8(4)^{60} + 8(4)^{61} + 8(4)^{62}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v2)

Question 1

Consider the partial geometric series represented below with first term $a = 992$, common ratio $r = \left(\frac{33}{62}\right)^{1/10}$, and $n = 10$ terms.

$$S = 992 + 931.37 + 874.45 + 821.01 + 770.83 + 723.72 + 679.49 + 637.97 + 598.98 + 562.37$$

We can multiply both sides by r.

$$rS = 931.37 + 874.45 + 821.01 + 770.83 + 723.72 + 679.49 + 637.97 + 598.98 + 562.37 + 528$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(8) + 7(8)^2 + 7(8)^3 + \cdots + 7(8)^{47} + 7(8)^{48} + 7(8)^{49} + 7(8)^{50}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v3)

Question 1

Consider the partial geometric series represented below with first term $a = 748$, common ratio $r = \left(\frac{6}{17}\right)^{1/10}$, and $n = 10$ terms.

$$S = 748 + 674.02 + 607.35 + 547.28 + 493.15 + 444.38 + 400.43 + 360.82 + 325.13 + 292.98$$

We can multiply both sides by r.

$$rS = 674.02 + 607.35 + 547.28 + 493.15 + 444.38 + 400.43 + 360.82 + 325.13 + 292.98 + 264$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(7) + 2(7)^2 + 2(7)^3 + \cdots + 2(7)^{63} + 2(7)^{64} + 2(7)^{65} + 2(7)^{66}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v4)

Question 1

Consider the partial geometric series represented below with first term $a = 713$, common ratio $r = \left(\frac{7}{31}\right)^{1/10}$, and $n = 10$ terms.

$$S = 713 + 614.42 + 529.46 + 456.26 + 393.17 + 338.81 + 291.97 + 251.6 + 216.81 + 186.83$$

We can multiply both sides by r.

$$rS = 614.42 + 529.46 + 456.26 + 393.17 + 338.81 + 291.97 + 251.6 + 216.81 + 186.83 + 161$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(2) + 3(2)^2 + 3(2)^3 + \cdots + 3(2)^{65} + 3(2)^{66} + 3(2)^{67} + 3(2)^{68}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v5)

Question 1

Consider the partial geometric series represented below with first term $a = 847$, common ratio $r = \left(\frac{65}{77}\right)^{1/10}$, and $n = 10$ terms.

$$S = 847 + 832.77 + 818.78 + 805.03 + 791.5 + 778.21 + 765.13 + 752.28 + 739.64 + 727.22$$

We can multiply both sides by r.

$$rS = 832.77 + 818.78 + 805.03 + 791.5 + 778.21 + 765.13 + 752.28 + 739.64 + 727.22 + 715$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(4) + 6(4)^2 + 6(4)^3 + \cdots + 6(4)^{60} + 6(4)^{61} + 6(4)^{62} + 6(4)^{63}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v6)

Question 1

Consider the partial geometric series represented below with first term $a = 418$, common ratio $r = \left(\frac{6}{19}\right)^{1/10}$, and $n = 10$ terms.

$$S = 418 + 372.49 + 331.94 + 295.8 + 263.59 + 234.9 + 209.32 + 186.53 + 166.22 + 148.13$$

We can multiply both sides by r.

$$rS = 372.49 + 331.94 + 295.8 + 263.59 + 234.9 + 209.32 + 186.53 + 166.22 + 148.13 + 132$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(8) + 3(8)^2 + 3(8)^3 + \cdots + 3(8)^{70} + 3(8)^{71} + 3(8)^{72} + 3(8)^{73}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v7)

Question 1

Consider the partial geometric series represented below with first term $a = 670$, common ratio $r = \left(\frac{53}{67}\right)^{1/10}$, and $n = 10$ terms.

$$S = 670 + 654.48 + 639.32 + 624.5 + 610.04 + 595.9 + 582.1 + 568.61 + 555.44 + 542.57$$

We can multiply both sides by r.

$$rS = 654.48 + 639.32 + 624.5 + 610.04 + 595.9 + 582.1 + 568.61 + 555.44 + 542.57 + 530$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(5) + 3(5)^2 + 3(5)^3 + \cdots + 3(5)^{65} + 3(5)^{66} + 3(5)^{67} + 3(5)^{68}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v8)

Question 1

Consider the partial geometric series represented below with first term $a = 814$, common ratio $r = \left(\frac{5}{22}\right)^{1/10}$, and $n = 10$ terms.

$$S = 814 + 701.91 + 605.25 + 521.9 + 450.03 + 388.06 + 334.62 + 288.54 + 248.81 + 214.54$$

We can multiply both sides by r.

$$rS = 701.91 + 605.25 + 521.9 + 450.03 + 388.06 + 334.62 + 288.54 + 248.81 + 214.54 + 185$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(7) + 5(7)^2 + 5(7)^3 + \cdots + 5(7)^{86} + 5(7)^{87} + 5(7)^{88} + 5(7)^{89}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v9)

Question 1

Consider the partial geometric series represented below with first term $a = 585$, common ratio $r = \left(\frac{6}{13}\right)^{1/10}$, and $n = 10$ terms.

$$S = 585 + 541.47 + 501.18 + 463.89 + 429.38 + 397.43 + 367.86 + 340.49 + 315.15 + 291.7$$

We can multiply both sides by r.

$$rS = 541.47 + 501.18 + 463.89 + 429.38 + 397.43 + 367.86 + 340.49 + 315.15 + 291.7 + 270$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(8) + 4(8)^2 + 4(8)^3 + \cdots + 4(8)^{62} + 4(8)^{63} + 4(8)^{64} + 4(8)^{65}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v10)

Question 1

Consider the partial geometric series represented below with first term $a = 896$, common ratio $r = \left(\frac{3}{7}\right)^{1/10}$, and $n = 10$ terms.

$$S = 896 + 823.21 + 756.33 + 694.89 + 638.44 + 586.57 + 538.92 + 495.14 + 454.91 + 417.95$$

We can multiply both sides by r.

$$rS = 823.21 + 756.33 + 694.89 + 638.44 + 586.57 + 538.92 + 495.14 + 454.91 + 417.95 + 384$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(2) + 6(2)^2 + 6(2)^3 + \cdots + 6(2)^{73} + 6(2)^{74} + 6(2)^{75} + 6(2)^{76}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v11)

Question 1

Consider the partial geometric series represented below with first term $a = 671$, common ratio $r = \left(\frac{43}{61}\right)^{1/10}$, and $n = 10$ terms.

$$S = 671 + 647.94 + 625.68 + 604.18 + 583.42 + 563.37 + 544.01 + 525.31 + 507.26 + 489.83$$

We can multiply both sides by r.

$$rS = 647.94 + 625.68 + 604.18 + 583.42 + 563.37 + 544.01 + 525.31 + 507.26 + 489.83 + 473$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(6) + 5(6)^2 + 5(6)^3 + \cdots + 5(6)^{67} + 5(6)^{68} + 5(6)^{69} + 5(6)^{70}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v12)

Question 1

Consider the partial geometric series represented below with first term $a = 552$, common ratio $r = \left(\frac{7}{23}\right)^{1/10}$, and $n = 10$ terms.

$$S = 552 + 490.09 + 435.12 + 386.32 + 342.99 + 304.53 + 270.37 + 240.05 + 213.13 + 189.22$$

We can multiply both sides by r.

$$rS = 490.09 + 435.12 + 386.32 + 342.99 + 304.53 + 270.37 + 240.05 + 213.13 + 189.22 + 168$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(3) + 5(3)^2 + 5(3)^3 + \cdots + 5(3)^{53} + 5(3)^{54} + 5(3)^{55} + 5(3)^{56}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v13)

Question 1

Consider the partial geometric series represented below with first term $a = 672$, common ratio $r = \left(\frac{59}{84}\right)^{1/10}$, and $n = 10$ terms.

$$S = 672 + 648.67 + 626.16 + 604.42 + 583.44 + 563.19 + 543.64 + 524.77 + 506.56 + 488.97$$

We can multiply both sides by r.

$$rS = 648.67 + 626.16 + 604.42 + 583.44 + 563.19 + 543.64 + 524.77 + 506.56 + 488.97 + 472$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(8) + 4(8)^2 + 4(8)^3 + \cdots + 4(8)^{50} + 4(8)^{51} + 4(8)^{52} + 4(8)^{53}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v14)

Question 1

Consider the partial geometric series represented below with first term $a = 612$, common ratio $r = \left(\frac{11}{34}\right)^{1/10}$, and $n = 10$ terms.

$$S = 612 + 546.69 + 488.35 + 436.24 + 389.69 + 348.1 + 310.96 + 277.77 + 248.13 + 221.65$$

We can multiply both sides by r.

$$rS = 546.69 + 488.35 + 436.24 + 389.69 + 348.1 + 310.96 + 277.77 + 248.13 + 221.65 + 198$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(6) + 3(6)^2 + 3(6)^3 + \cdots + 3(6)^{78} + 3(6)^{79} + 3(6)^{80} + 3(6)^{81}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v15)

Question 1

Consider the partial geometric series represented below with first term $a = 414$, common ratio $r = \left(\frac{20}{69}\right)^{1/10}$, and $n = 10$ terms.

$$S = 414 + 365.78 + 323.17 + 285.53 + 252.27 + 222.89 + 196.93 + 173.99 + 153.73 + 135.82$$

We can multiply both sides by r.

$$rS = 365.78 + 323.17 + 285.53 + 252.27 + 222.89 + 196.93 + 173.99 + 153.73 + 135.82 + 120$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(4) + 6(4)^2 + 6(4)^3 + \cdots + 6(4)^{57} + 6(4)^{58} + 6(4)^{59} + 6(4)^{60}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v16)

Question 1

Consider the partial geometric series represented below with first term $a = 481$, common ratio $r = \left(\frac{9}{13}\right)^{1/10}$, and $n = 10$ terms.

$$S = 481 + 463.63 + 446.89 + 430.76 + 415.21 + 400.22 + 385.77 + 371.84 + 358.41 + 345.47$$

We can multiply both sides by r.

$$rS = 463.63 + 446.89 + 430.76 + 415.21 + 400.22 + 385.77 + 371.84 + 358.41 + 345.47 + 333$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(5) + 4(5)^2 + 4(5)^3 + \cdots + 4(5)^{83} + 4(5)^{84} + 4(5)^{85} + 4(5)^{86}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v17)

Question 1

Consider the partial geometric series represented below with first term $a = 450$, common ratio $r = \left(\frac{49}{90}\right)^{1/10}$, and $n = 10$ terms.

$$S = 450 + 423.46 + 398.48 + 374.97 + 352.85 + 332.04 + 312.45 + 294.02 + 276.68 + 260.36$$

We can multiply both sides by r.

$$rS = 423.46 + 398.48 + 374.97 + 352.85 + 332.04 + 312.45 + 294.02 + 276.68 + 260.36 + 245$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(6) + 5(6)^2 + 5(6)^3 + \cdots + 5(6)^{59} + 5(6)^{60} + 5(6)^{61} + 5(6)^{62}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v18)

Question 1

Consider the partial geometric series represented below with first term $a = 946$, common ratio $r = \left(\frac{8}{11}\right)^{1/10}$, and $n = 10$ terms.

$$S = 946 + 916.35 + 887.63 + 859.81 + 832.86 + 806.75 + 781.46 + 756.97 + 733.24 + 710.26$$

We can multiply both sides by r.

$$rS = 916.35 + 887.63 + 859.81 + 832.86 + 806.75 + 781.46 + 756.97 + 733.24 + 710.26 + 688$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(7) + 6(7)^2 + 6(7)^3 + \cdots + 6(7)^{46} + 6(7)^{47} + 6(7)^{48} + 6(7)^{49}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v19)

Question 1

Consider the partial geometric series represented below with first term $a = 556$, common ratio $r = \left(\frac{3}{4}\right)^{1/10}$, and $n = 10$ terms.

$$S = 556 + 540.23 + 524.91 + 510.03 + 495.56 + 481.51 + 467.86 + 454.59 + 441.7 + 429.17$$

We can multiply both sides by r.

$$rS = 540.23 + 524.91 + 510.03 + 495.56 + 481.51 + 467.86 + 454.59 + 441.7 + 429.17 + 417$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(3) + 7(3)^2 + 7(3)^3 + \cdots + 7(3)^{84} + 7(3)^{85} + 7(3)^{86} + 7(3)^{87}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v20)

Question 1

Consider the partial geometric series represented below with first term $a = 624$, common ratio $r = \left(\frac{1}{6}\right)^{1/10}$, and $n = 10$ terms.

$$S = 624 + 521.64 + 436.07 + 364.53 + 304.74 + 254.75 + 212.96 + 178.02 + 148.82 + 124.41$$

We can multiply both sides by r.

$$rS = 521.64 + 436.07 + 364.53 + 304.74 + 254.75 + 212.96 + 178.02 + 148.82 + 124.41 + 104$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(8) + 3(8)^2 + 3(8)^3 + \cdots + 3(8)^{74} + 3(8)^{75} + 3(8)^{76} + 3(8)^{77}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v21)

Question 1

Consider the partial geometric series represented below with first term $a = 702$, common ratio $r = \left(\frac{20}{27}\right)^{1/10}$, and $n = 10$ terms.

$$S = 702 + 681.25 + 661.1 + 641.56 + 622.59 + 604.19 + 586.32 + 568.99 + 552.17 + 535.84$$

We can multiply both sides by r.

$$rS = 681.25 + 661.1 + 641.56 + 622.59 + 604.19 + 586.32 + 568.99 + 552.17 + 535.84 + 520$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(8) + 2(8)^2 + 2(8)^3 + \cdots + 2(8)^{47} + 2(8)^{48} + 2(8)^{49} + 2(8)^{50}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v22)

Question 1

Consider the partial geometric series represented below with first term $a = 748$, common ratio $r = \left(\frac{23}{34}\right)^{1/10}$, and $n = 10$ terms.

$$S = 748 + 719.33 + 691.75 + 665.24 + 639.74 + 615.21 + 591.63 + 568.95 + 547.14 + 526.17$$

We can multiply both sides by r.

$$rS = 719.33 + 691.75 + 665.24 + 639.74 + 615.21 + 591.63 + 568.95 + 547.14 + 526.17 + 506$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(4) + 6(4)^2 + 6(4)^3 + \cdots + 6(4)^{70} + 6(4)^{71} + 6(4)^{72} + 6(4)^{73}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v23)

Question 1

Consider the partial geometric series represented below with first term $a = 432$, common ratio $r = \left(\frac{55}{72}\right)^{1/10}$, and $n = 10$ terms.

$$S = 432 + 420.52 + 409.35 + 398.47 + 387.88 + 377.57 + 367.54 + 357.77 + 348.26 + 339.01$$

We can multiply both sides by r.

$$rS = 420.52 + 409.35 + 398.47 + 387.88 + 377.57 + 367.54 + 357.77 + 348.26 + 339.01 + 330$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(2) + 7(2)^2 + 7(2)^3 + \cdots + 7(2)^{82} + 7(2)^{83} + 7(2)^{84} + 7(2)^{85}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v24)

Question 1

Consider the partial geometric series represented below with first term $a = 660$, common ratio $r = \left(\frac{5}{33}\right)^{1/10}$, and $n = 10$ terms.

$$S = 660 + 546.5 + 452.52 + 374.7 + 310.26 + 256.9 + 212.72 + 176.14 + 145.85 + 120.77$$

We can multiply both sides by r.

$$rS = 546.5 + 452.52 + 374.7 + 310.26 + 256.9 + 212.72 + 176.14 + 145.85 + 120.77 + 100$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(5) + 4(5)^2 + 4(5)^3 + \cdots + 4(5)^{68} + 4(5)^{69} + 4(5)^{70} + 4(5)^{71}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v25)

Question 1

Consider the partial geometric series represented below with first term $a = 800$, common ratio $r = \left(\frac{23}{40}\right)^{1/10}$, and $n = 10$ terms.

$$S = 800 + 756.93 + 716.18 + 677.63 + 641.15 + 606.63 + 573.97 + 543.07 + 513.84 + 486.17$$

We can multiply both sides by r.

$$rS = 756.93 + 716.18 + 677.63 + 641.15 + 606.63 + 573.97 + 543.07 + 513.84 + 486.17 + 460$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(8) + 6(8)^2 + 6(8)^3 + \cdots + 6(8)^{48} + 6(8)^{49} + 6(8)^{50} + 6(8)^{51}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v26)

Question 1

Consider the partial geometric series represented below with first term $a = 938$, common ratio $r = \left(\frac{10}{67}\right)^{1/10}$, and $n = 10$ terms.

$$S = 938 + 775.52 + 641.19 + 530.13 + 438.3 + 362.38 + 299.61 + 247.71 + 204.81 + 169.33$$

We can multiply both sides by r.

$$rS = 775.52 + 641.19 + 530.13 + 438.3 + 362.38 + 299.61 + 247.71 + 204.81 + 169.33 + 140$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(5) + 7(5)^2 + 7(5)^3 + \cdots + 7(5)^{57} + 7(5)^{58} + 7(5)^{59} + 7(5)^{60}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v27)

Question 1

Consider the partial geometric series represented below with first term $a = 510$, common ratio $r = \left(\frac{33}{85}\right)^{1/10}$, and $n = 10$ terms.

$$S = 510 + 463.96 + 422.07 + 383.97 + 349.31 + 317.77 + 289.09 + 262.99 + 239.25 + 217.65$$

We can multiply both sides by r.

$$rS = 463.96 + 422.07 + 383.97 + 349.31 + 317.77 + 289.09 + 262.99 + 239.25 + 217.65 + 198$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(3) + 4(3)^2 + 4(3)^3 + \cdots + 4(3)^{49} + 4(3)^{50} + 4(3)^{51} + 4(3)^{52}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v28)

Question 1

Consider the partial geometric series represented below with first term $a = 780$, common ratio $r = \left(\frac{3}{5}\right)^{1/10}$, and $n = 10$ terms.

$$S = 780 + 741.16 + 704.25 + 669.18 + 635.85 + 604.19 + 574.1 + 545.51 + 518.34 + 492.53$$

We can multiply both sides by r.

$$rS = 741.16 + 704.25 + 669.18 + 635.85 + 604.19 + 574.1 + 545.51 + 518.34 + 492.53 + 468$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(3) + 2(3)^2 + 2(3)^3 + \cdots + 2(3)^{59} + 2(3)^{60} + 2(3)^{61} + 2(3)^{62}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v29)

Question 1

Consider the partial geometric series represented below with first term $a = 896$, common ratio $r = \left(\frac{5}{14}\right)^{1/10}$, and $n = 10$ terms.

$$S = 896 + 808.34 + 729.25 + 657.9 + 593.53 + 535.46 + 483.07 + 435.81 + 393.17 + 354.7$$

We can multiply both sides by r.

$$rS = 808.34 + 729.25 + 657.9 + 593.53 + 535.46 + 483.07 + 435.81 + 393.17 + 354.7 + 320$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(4) + 5(4)^2 + 5(4)^3 + \cdots + 5(4)^{78} + 5(4)^{79} + 5(4)^{80} + 5(4)^{81}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v30)

Question 1

Consider the partial geometric series represented below with first term $a = 990$, common ratio $r = \left(\frac{17}{33}\right)^{1/10}$, and $n = 10$ terms.

$$S = 990 + 926.46 + 867.01 + 811.36 + 759.29 + 710.56 + 664.96 + 622.29 + 582.35 + 544.98$$

We can multiply both sides by r.

$$rS = 926.46 + 867.01 + 811.36 + 759.29 + 710.56 + 664.96 + 622.29 + 582.35 + 544.98 + 510$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(3) + 2(3)^2 + 2(3)^3 + \cdots + 2(3)^{59} + 2(3)^{60} + 2(3)^{61} + 2(3)^{62}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v31)

Question 1

Consider the partial geometric series represented below with first term $a = 657$, common ratio $r = \left(\frac{53}{73}\right)^{1/10}$, and $n = 10$ terms.

$$S = 657 + 636.3 + 616.25 + 596.83 + 578.02 + 559.81 + 542.17 + 525.09 + 508.54 + 492.52$$

We can multiply both sides by r.

$$rS = 636.3 + 616.25 + 596.83 + 578.02 + 559.81 + 542.17 + 525.09 + 508.54 + 492.52 + 477$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(8) + 5(8)^2 + 5(8)^3 + \cdots + 5(8)^{47} + 5(8)^{48} + 5(8)^{49} + 5(8)^{50}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v32)

Question 1

Consider the partial geometric series represented below with first term $a = 477$, common ratio $r = \left(\frac{12}{53}\right)^{1/10}$, and $n = 10$ terms.

$$S = 477 + 411.16 + 354.4 + 305.49 + 263.32 + 226.97 + 195.64 + 168.64 + 145.36 + 125.29$$

We can multiply both sides by r.

$$rS = 411.16 + 354.4 + 305.49 + 263.32 + 226.97 + 195.64 + 168.64 + 145.36 + 125.29 + 108$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(2) + 5(2)^2 + 5(2)^3 + \cdots + 5(2)^{87} + 5(2)^{88} + 5(2)^{89} + 5(2)^{90}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v33)

Question 1

Consider the partial geometric series represented below with first term $a = 364$, common ratio $r = \left(\frac{29}{52}\right)^{1/10}$, and $n = 10$ terms.

$$S = 364 + 343.35 + 323.88 + 305.51 + 288.18 + 271.83 + 256.41 + 241.87 + 228.15 + 215.21$$

We can multiply both sides by r.

$$rS = 343.35 + 323.88 + 305.51 + 288.18 + 271.83 + 256.41 + 241.87 + 228.15 + 215.21 + 203$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 8 + 8(4) + 8(4)^2 + 8(4)^3 + \cdots + 8(4)^{58} + 8(4)^{59} + 8(4)^{60} + 8(4)^{61}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v34)

Question 1

Consider the partial geometric series represented below with first term $a = 923$, common ratio $r = \left(\frac{15}{71}\right)^{1/10}$, and $n = 10$ terms.

$$S = 923 + 790.11 + 676.34 + 578.96 + 495.6 + 424.25 + 363.16 + 310.87 + 266.11 + 227.8$$

We can multiply both sides by r.

$$rS = 790.11 + 676.34 + 578.96 + 495.6 + 424.25 + 363.16 + 310.87 + 266.11 + 227.8 + 195$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 4 + 4(7) + 4(7)^2 + 4(7)^3 + \cdots + 4(7)^{85} + 4(7)^{86} + 4(7)^{87} + 4(7)^{88}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v35)

Question 1

Consider the partial geometric series represented below with first term $a = 310$, common ratio $r = \left(\frac{17}{31}\right)^{1/10}$, and $n = 10$ terms.

$$S = 310 + 291.92 + 274.9 + 258.87 + 243.78 + 229.56 + 216.18 + 203.57 + 191.7 + 180.53$$

We can multiply both sides by r.

$$rS = 291.92 + 274.9 + 258.87 + 243.78 + 229.56 + 216.18 + 203.57 + 191.7 + 180.53 + 170$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(4) + 6(4)^2 + 6(4)^3 + \cdots + 6(4)^{61} + 6(4)^{62} + 6(4)^{63} + 6(4)^{64}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v36)

Question 1

Consider the partial geometric series represented below with first term $a = 632$, common ratio $r = \left(\frac{21}{79}\right)^{1/10}$, and $n = 10$ terms.

$$S = 632 + 553.57 + 484.88 + 424.71 + 372.01 + 325.85 + 285.41 + 250 + 218.97 + 191.8$$

We can multiply both sides by r.

$$rS = 553.57 + 484.88 + 424.71 + 372.01 + 325.85 + 285.41 + 250 + 218.97 + 191.8 + 168$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 8 + 8(5) + 8(5)^2 + 8(5)^3 + \cdots + 8(5)^{58} + 8(5)^{59} + 8(5)^{60} + 8(5)^{61}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v37)

Question 1

Consider the partial geometric series represented below with first term $a = 493$, common ratio $r = \left(\frac{10}{29}\right)^{1/10}$, and $n = 10$ terms.

$$S = 493 + 443.21 + 398.44 + 358.2 + 322.02 + 289.5 + 260.26 + 233.97 + 210.34 + 189.1$$

We can multiply both sides by r.

$$rS = 443.21 + 398.44 + 358.2 + 322.02 + 289.5 + 260.26 + 233.97 + 210.34 + 189.1 + 170$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(4) + 2(4)^2 + 2(4)^3 + \cdots + 2(4)^{67} + 2(4)^{68} + 2(4)^{69} + 2(4)^{70}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v38)

Question 1

Consider the partial geometric series represented below with first term $a = 424$, common ratio $r = \left(\frac{33}{53}\right)^{1/10}$, and $n = 10$ terms.

$$S = 424 + 404.38 + 385.67 + 367.82 + 350.8 + 334.57 + 319.09 + 304.32 + 290.24 + 276.81$$

We can multiply both sides by r.

$$rS = 404.38 + 385.67 + 367.82 + 350.8 + 334.57 + 319.09 + 304.32 + 290.24 + 276.81 + 264$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(5) + 3(5)^2 + 3(5)^3 + \cdots + 3(5)^{63} + 3(5)^{64} + 3(5)^{65} + 3(5)^{66}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v39)

Question 1

Consider the partial geometric series represented below with first term $a = 620$, common ratio $r = \left(\frac{41}{62}\right)^{1/10}$, and $n = 10$ terms.

$$S = 620 + 594.88 + 570.78 + 547.66 + 525.47 + 504.18 + 483.76 + 464.16 + 445.35 + 427.31$$

We can multiply both sides by r.

$$rS = 594.88 + 570.78 + 547.66 + 525.47 + 504.18 + 483.76 + 464.16 + 445.35 + 427.31 + 410$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(2) + 3(2)^2 + 3(2)^3 + \cdots + 3(2)^{88} + 3(2)^{89} + 3(2)^{90} + 3(2)^{91}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v40)

Question 1

Consider the partial geometric series represented below with first term $a = 986$, common ratio $r = \left(\frac{51}{58}\right)^{1/10}$, and $n = 10$ terms.

$$S = 986 + 973.4 + 960.96 + 948.68 + 936.56 + 924.59 + 912.77 + 901.11 + 889.59 + 878.22$$

We can multiply both sides by r.

$$rS = 973.4 + 960.96 + 948.68 + 936.56 + 924.59 + 912.77 + 901.11 + 889.59 + 878.22 + 867$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(7) + 5(7)^2 + 5(7)^3 + \cdots + 5(7)^{90} + 5(7)^{91} + 5(7)^{92} + 5(7)^{93}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v41)

Question 1

Consider the partial geometric series represented below with first term $a = 976$, common ratio $r = \left(\frac{9}{61}\right)^{1/10}$, and $n = 10$ terms.

$$S = 976 + 806.01 + 665.63 + 549.7 + 453.96 + 374.89 + 309.6 + 255.68 + 211.14 + 174.37$$

We can multiply both sides by r.

$$rS = 806.01 + 665.63 + 549.7 + 453.96 + 374.89 + 309.6 + 255.68 + 211.14 + 174.37 + 144$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 3 + 3(6) + 3(6)^2 + 3(6)^3 + \cdots + 3(6)^{67} + 3(6)^{68} + 3(6)^{69} + 3(6)^{70}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v42)

Question 1

Consider the partial geometric series represented below with first term $a = 660$, common ratio $r = \left(\frac{7}{11}\right)^{1/10}$, and $n = 10$ terms.

$$S = 660 + 630.83 + 602.96 + 576.31 + 550.84 + 526.5 + 503.23 + 480.99 + 459.74 + 439.42$$

We can multiply both sides by r.

$$rS = 630.83 + 602.96 + 576.31 + 550.84 + 526.5 + 503.23 + 480.99 + 459.74 + 439.42 + 420$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 2 + 2(3) + 2(3)^2 + 2(3)^3 + \cdots + 2(3)^{81} + 2(3)^{82} + 2(3)^{83} + 2(3)^{84}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v43)

Question 1

Consider the partial geometric series represented below with first term $a = 962$, common ratio $r = \left(\frac{57}{74}\right)^{1/10}$, and $n = 10$ terms.

$$S = 962 + 937.22 + 913.07 + 889.55 + 866.63 + 844.3 + 822.55 + 801.36 + 780.71 + 760.6$$

We can multiply both sides by r.

$$rS = 937.22 + 913.07 + 889.55 + 866.63 + 844.3 + 822.55 + 801.36 + 780.71 + 760.6 + 741$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(8) + 7(8)^2 + 7(8)^3 + \cdots + 7(8)^{86} + 7(8)^{87} + 7(8)^{88} + 7(8)^{89}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v44)

Question 1

Consider the partial geometric series represented below with first term $a = 598$, common ratio $r = \left(\frac{7}{26}\right)^{1/10}$, and $n = 10$ terms.

$$S = 598 + 524.46 + 459.97 + 403.4 + 353.79 + 310.29 + 272.13 + 238.66 + 209.32 + 183.57$$

We can multiply both sides by r.

$$rS = 524.46 + 459.97 + 403.4 + 353.79 + 310.29 + 272.13 + 238.66 + 209.32 + 183.57 + 161$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(2) + 5(2)^2 + 5(2)^3 + \cdots + 5(2)^{50} + 5(2)^{51} + 5(2)^{52} + 5(2)^{53}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v45)

Question 1

Consider the partial geometric series represented below with first term $a = 583$, common ratio $r = \left(\frac{7}{11}\right)^{1/10}$, and $n = 10$ terms.

$$S = 583 + 557.24 + 532.61 + 509.07 + 486.58 + 465.07 + 444.52 + 424.88 + 406.1 + 388.15$$

We can multiply both sides by r.

$$rS = 557.24 + 532.61 + 509.07 + 486.58 + 465.07 + 444.52 + 424.88 + 406.1 + 388.15 + 371$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(4) + 5(4)^2 + 5(4)^3 + \cdots + 5(4)^{75} + 5(4)^{76} + 5(4)^{77} + 5(4)^{78}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v46)

Question 1

Consider the partial geometric series represented below with first term $a = 506$, common ratio $r = \left(\frac{4}{11}\right)^{1/10}$, and $n = 10$ terms.

$$S = 506 + 457.32 + 413.32 + 373.55 + 337.61 + 305.13 + 275.77 + 249.24 + 225.26 + 203.59$$

We can multiply both sides by r.

$$rS = 457.32 + 413.32 + 373.55 + 337.61 + 305.13 + 275.77 + 249.24 + 225.26 + 203.59 + 184$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 7 + 7(4) + 7(4)^2 + 7(4)^3 + \cdots + 7(4)^{56} + 7(4)^{57} + 7(4)^{58} + 7(4)^{59}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v47)

Question 1

Consider the partial geometric series represented below with first term $a = 356$, common ratio $r = \left(\frac{28}{89}\right)^{1/10}$, and $n = 10$ terms.

$$S = 356 + 317.12 + 282.49 + 251.64 + 224.16 + 199.68 + 177.87 + 158.45 + 141.14 + 125.73$$

We can multiply both sides by r.

$$rS = 317.12 + 282.49 + 251.64 + 224.16 + 199.68 + 177.87 + 158.45 + 141.14 + 125.73 + 112$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 8 + 8(7) + 8(7)^2 + 8(7)^3 + \cdots + 8(7)^{54} + 8(7)^{55} + 8(7)^{56} + 8(7)^{57}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v48)

Question 1

Consider the partial geometric series represented below with first term $a = 950$, common ratio $r = \left(\frac{4}{5}\right)^{1/10}$, and $n = 10$ terms.

$$S = 950 + 929.04 + 908.53 + 888.49 + 868.88 + 849.71 + 830.96 + 812.62 + 794.69 + 777.15$$

We can multiply both sides by r.

$$rS = 929.04 + 908.53 + 888.49 + 868.88 + 849.71 + 830.96 + 812.62 + 794.69 + 777.15 + 760$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(2) + 6(2)^2 + 6(2)^3 + \cdots + 6(2)^{86} + 6(2)^{87} + 6(2)^{88} + 6(2)^{89}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v49)

Question 1

Consider the partial geometric series represented below with first term $a = 735$, common ratio $r = \left(\frac{4}{15}\right)^{1/10}$, and $n = 10$ terms.

$$S = 735 + 644 + 564.26 + 494.4 + 433.19 + 379.55 + 332.56 + 291.38 + 255.31 + 223.7$$

We can multiply both sides by r.

$$rS = 644 + 564.26 + 494.4 + 433.19 + 379.55 + 332.56 + 291.38 + 255.31 + 223.7 + 196$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 5 + 5(4) + 5(4)^2 + 5(4)^3 + \cdots + 5(4)^{47} + 5(4)^{48} + 5(4)^{49} + 5(4)^{50}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.

Name: Date:

s17 Geometric Series Exam (Practice v50)

Question 1

Consider the partial geometric series represented below with first term $a = 864$, common ratio $r = \left(\frac{13}{96}\right)^{1/10}$, and $n = 10$ terms.

$$S = 864 + 707.43 + 579.23 + 474.26 + 388.31 + 317.94 + 260.33 + 213.15 + 174.52 + 142.9$$

We can multiply both sides by r.

$$rS = 707.43 + 579.23 + 474.26 + 388.31 + 317.94 + 260.33 + 213.15 + 174.52 + 142.9 + 117$$

What is the value of $S - rS$?

Question 2

Consider the geometric series shown below, using ellipsis notation to indicate a continuation of the pattern without writing every term.

$$S = 6 + 6(4) + 6(4)^2 + 6(4)^3 + \cdots + 6(4)^{65} + 6(4)^{66} + 6(4)^{67} + 6(4)^{68}$$

Identify the initial term, the common ratio, and the number of terms.

Question 3

Write a proof for the partial geometric series formula.

a. Define the variables.
b. Write the sum using variables and ellipsis notation. You can implicitly assume the number of terms is more than the number of terms you choose to write.
c. Using annotated algebraic manipulation, produce the partial geometric series formula.